Message

From: Gillespie, Andrew [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DCE99ECE87694A06B3009D7756E2A89E-GILLESPIE, ANDREW]
Sent: 12/2/2019 9:18:41 PM
To: Watkins, Tim [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4cbd1c572f584fd7b0a3b5945f118558-Watkins, Tim]; Schumacher, Brian [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c2d457e4a6684028801b188422df52a7-Schumacher, Brian]; Stevens, Caroline [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dfd9eb36db0a44eaa6cabf85f3cf0550-Stevens, Caroline]; Washington, John [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fdc3e8ce9f1d45c4894881ff420ca104-Washington, John]; Smith, Emily J. [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3170dc8557cb488285de7652ad162cdd-Smith, Emily J.]
Subject: FW: ADVANCED NOTIFICATION - novel PFAS, fingerprinting, transport, New Jersey
Attachments: 191104 WashingtonEtAlSuppMatPostReviewChangesAccepted.docx; ATT00001.htm; 191115 WashingtonEtAlManuscriptPostReviewsThruFileNameDate.docx; ATT00002.htm; 190926 NJ PFAS Washington fact sheet.docx; ATT00003.htm

Colleagues - Had a call today from a couple of division directors in R2 (Ariel Iglesias, Anahita Williamson) who are reviewing this manuscript as part of the AN process. They also gave their RA a heads up, and they and RA have some concerns about communications, want to make sure we do a thorough rollout before this goes public.

I explained our AN process to them, and where the document currently is. I also told them we would be working up some communication materials which we could share with them for comment, since R2 has been a partner in the NJ work. **Em, any idea when you might have a draft of the comms materials for this one?** I don't think there is a huge rush but sharing it before the holidays might be appreciated.

Additionally, they asked if we could do a briefing for their RA on the paper – not the heavy details of the science, more at the abstract/executive summary level, including implications for EPA staff. We could probably work with the slides John has prepared for the NJ meeting, deleting some of the detail and adding some higher level overview info.

Tim, would you want to give such a briefing to the RA (and he may possibly invite other politicals), or would you prefer to engage the IOAA and see what their preference is? Or some other option? Please let me know what you think.

Thanks, Andy

Andrew J. R. Gillespie, Ph. D.
Associate Director, US EPA/ORD/CEMM
ORD Executive Lead for PFAS R&D

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From: Rodan, Bruce <rodan.bruce@epa.gov>
Sent: Tuesday, November 19, 2019 8:14 PM
To: Frithsen, Jeff <Frithsen.Jeff@epa.gov>
Cc: Fleming, Megan <Fleming.Megan@epa.gov>; LaVay, Maggie <LaVay.Maggie@epa.gov>; Gillespie, Andrew <Gillespie.Andrew@epa.gov>
Subject: ADVANCED NOTIFICATION - novel PFAS, fingerprinting, transport, New Jersey

Jeff,

Attached please find a manuscript on PFAS identification in New Jersey. Very interesting. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Bruce Rodan

Sent from my iPhone

Begin forwarded message:

From: "Gillespie, Andrew" <Gillespie.Andrew@epa.gov>
Date: November 15, 2019 at 9:02:39 AM EST
To: "Rodan, Bruce" <rodan.bruce@epa.gov>
Cc: "Fleming, Megan" <Fleming.Megan@epa.gov>
Subject: ADVANCED NOTIFICATION - novel PFAS, fingerprinting, transport, New Jersey

(resending revised manuscript following comments from Bruce)...

Hello Bruce – here is another PFAS manuscript from CEMM for advanced notification, using some of our recently generated data from New Jersey to identify some new PFAS congeners in soil samples as well as using those data for fingerprinting likely sources. Given the novel nature of the PFAS and their presence in soil, I suggest sharing with OCSPP and OLEM for advanced notification. We made OCSPP aware of the novel PFAS findings last year, when we first generated the data, so this should not be a surprise.

Text of fact sheet is below.

Ex. 5 Deliberative Process (DP)

Please let me know if there are any questions, and thank you for your assistance.

Best regards, Andy

Transmittal Summary Document
ORD Manuscript Review

1. Manuscript Title:
Use of Nontargeted PFAS to Develop a Legacy PFAS Fingerprint in New Jersey

Authors: John W. Washington1*, Charlita G. Rosal1, James P. McCord2, Mark J. Strynar2, Andrew B. Lindstrom2, Erica L. Bergman3, Sandra M. Goodrow3, Haile K. Tadesse2, Andrew N. Pilant2, Benjamin J. Washington4, Mary J. Davis1, Brittany G. Stuart5, Thomas M. Jenkins6

Affiliations: 1USEPA, Office Research and Development, Athens, GA.

2USEPA, Office Research and Development, Research Triangle Park, NC.
3NJDEP, Division of Science and Research, Trenton, NJ.
4USEPA, Office Research and Development, Washington, DC.
5USEPA, Office of Research and Development, Cincinnati, OH.
6Senior Environmental Employment Program (USEPA/ORD), Athens, GA.

1. Background/Overview:

New Jersey Department of Environmental Protection (NJDEP) requested ORD's assistance to investigate legacy PFAS distribution in NJ, including two potential PFAS sources. NJDEP collected soil, vegetation and water samples from transects and from across much of the state, delivering soil/veg samples to Athens and water to RTP.

In this manuscript, we report on soil PFAS in New Jersey, not US water. In soil, we identified ten new PFAS compounds, chlor-perfluoro-polyether-carboxylates (ClPFPECAs), using nontargeted analyses and semiquantitated the concentrations of these compounds. We contoured these ClPFPECA values on a map, forming a pattern focusing on one of the potential sources identified by NJDEP.

We used the ClPFPECA data, and PFAS reaction stoichiometry, to develop a fingerprint of legacy PFAS. When this legacy fingerprint was contoured on a map, it formed a pattern focusing on both potential sources identified by NJDEP.

1. Relevancy to program office/regional research needs/priorities:

The data and information reported here suggest that fingerprinting of PFAS may be possible in certain situations to support risk managers in identifying sources of specific PFAS.

1. Name(s) of program/regional office coauthors or reviewer(s) of earlier drafts, if any

No program or regional coauthors or reviewers. Staff from NJ DEP are included as coauthors. Draft manuscript has been shared for awareness with R2 POC for the NJ collaboration.

1. Major observations and results:

Collectively, our results: (i) identify ten novel PFAS, ClPFPECAs, not previously detected in the environment, including congeners with no previous reports, so far as we know; (ii) suggest many ClPFPECA congeners have bioconcentration potential on the order of or greater than PFOA and PFOS; (iii) document the widespread distribution of ClPFPECAs over much of densely populated New Jersey; (iv) indicate the source of these ClPFPECAs in New Jersey dominantly are from Solvay; (v) were used to fingerprint historical sources of legacy long-chain PFCAs C11 and C13 being from Solvay, and C10 and C12 from the Chemours facility; and (vi) document discernable signals of these legacy PFCAs across an expansive breadth of south Jersey persisting today.

1. Potential implications of the findings:

These data and information: (i) are of interest to NJDEP staff; (ii) suggest a potential exposure of a large population to PFAS; and (iii) also suggest a potential for bioaccumulation.

1. Findings advancing existing scientific knowledge:

Advances in scientific knowledge include: (i) identification/elucidation of ten new PFAS congeners, potentially with isomers, in the environment; (ii) development of methods to detect these compounds on conventional LC/MS/MS; (iii) document sorting of PFAS in atmospheric plumes by molecular mass, perhaps for the first time; (iv) document considerable atmospheric transport distances of PFAS having very low vapor pressures (i.e., chemically non-gaseous PFAS), contrary to expectations of many chemists

(e.g., me); (v) reporting of semiquantitative concentrations of nontargeted analytes for the first time in the peer-reviewed literature so far as I know (I had reported semi-quantitated values for targeted compounds in the past but not nontargeted); (vi) perhaps reports one of the first fingerprints of legacy compounds in a complex contaminant setting – there's lots of literature noise about fingerprinting, but I have seen no real-world examples that aren't isolated sites in generally pristine surroundings or unique compounds.

1. Publication information (journal, book) and estimated timelines:
Optimistically, I hope to have this thru clearance by the end of November. When clearance is complete, I plan to submit to the journal Science. Realistically, I understand the strong chance of rejection by Science at which time I would rewrite for format and submit to ES&T.

Andrew J. R. Gillespie, Ph. D.
Associate Director, US EPA/ORD/CEMM
ORD Executive Lead for PFAS R&D

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